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§ 75. C. F. Austin on two New Musci.

Trichostomum (Trichodon) nodulosum.—Caule cæspitoso semiunciali et longiore erecto (sterili graciliore subflexuoso), foliis inferioribus subulato-lanceolatis canaliculatis subuniformi-areolatis, cellulis ovali- vel oblongo-quadratis in sectione transversali rotundis subseriatis, comalibus sensim majoribus e basi oblonga lineali-lanceolatis, perichætialibus intimis basi spathulato-oblonga ad ¾ et ultra vaginantibus, reti versus basin sensim duplo triplove longiore paulum latiore oblongo et oblongo-lineari stricto subsemipellucido, omnibus in statu siccato erectiusculis subtortuosis (in humido apertis strictioribus) lævissimis versus apicem subserratis margine (basi excepta) lamellato-incrassatis leniter recurvis, costa validiuscula percurrente instructis, capsula in pedicello fere unciam longo cylindracea oblongo-cylindraceave erecta in medio leniter curvula, calyptra ad sinistram subtorta infra medium capsulæ descendente, operculo alte conico conicove-rostrato leniter curvulo (sed non obliquo), annulo composito deciduo, peristomii dentibus 16 longis lenissime contortis lævissimis (haud granulosis) rufo-purpureis nitidis basi per paribus confluentibus (gemellis) fere ad basin in cruribus duobus æqualibus tenuissimis filiformibus acutissimis tota longitudine distinctissime (circa 10–15) nodoso-articulatis fissis (raro aut hic illic minus profunde fissis aut subconfluentibus): pl. masc. (semper ?) minima gracilis ad latus femineæ parasitica, flore minuto terminali. *Trichodon oblongus*, n. sp. Aust. in litt. ad Sulliv. Dec. 1868. *Trichodon oblongus*, Lindb. Trichost. Europ. 1864 p. 15 (adnot.), ab planta nostra differt: "foliis serrulatis, seta quadrilineari, subflexuosa, dentibus peristomii brevibus, cruribus irregulariter connatis subgranulosis, annulo simplici.—*Ceratodon Corsicus*, Schimp. Synop. p. 140, qui ad illam proxime accedere videtur, "capsula sicca vacua sulcata, peristomii dentibus. valde granulosis submarginatis," sese distinguit.

On the perpendicular or inclined surface of damp or wet rocks in deep shaded ravines, Pascack, New Jersey (1868), and Suffern, New York (1869). Also at the mouth of "Buttermilk Ravine" in the Catskill Mountains (Rau & Austin, 1875). (Matures in Oct. and Nov.) [Only four fertile stems were found at Pascack, and the little tuft found at Suffern was sterile.]

Trichostomum nodulosum differs from its congeners in its perfectly smooth and shining peristomal teeth, usually divided nearly or quite to the base into two more slender and more finely and acutely attenuated segments, which are strongly nodulose throughout their whole length. The following are the only American species with which it would seem possible to confound it, with a brief view of some of the chief characters by which they severally may be distinguished:

T. tortile, Schrad. (which I have never found on rocks) is of a smaller size with a usually much smaller capsule on a shorter pedicel; peristomal teeth paler, much more twisted, stouter, papillose and obtusish; annulus simple and persistent; perichætial leaves with a lanceolate much more pellucid base, the innermost ones much dimin-

ished, and not at all vaginal; leaf-cells heteromorphous and not placed end to end, in cross-section *square*, the basal cells longer and more inflated, and very irregular in size; costa stouter (particularly at the base), etc.

T. lineare (Swartz) Sulliv. (*T. vaginans*, Sulliv.) has a small ovate-oval or -oblong capsule, with a shorter operculum, broader subpersistent annulus, straight (not twisted) granulose (Sulliv. *Icones* to the contrary notwithstanding) persistome, whose teeth are lancolate-subulate or subulate-lineal, subsimple, and more or less perforated, and less prominently nodulose; leaves much shorter, straight and appressed, with a longer (very narrow and close) areolation, and a broader and more depressed costa; the perichaetial ones more vaginal and convolute and much shorter pointed; it also grows exclusively on the ground.

T. heteromallum, Lindb. (*T. Sullivanti*, Aust. Ms., 1872.—*T. vaginans*, Sulliv. & Lesqx. Musc. Exsic. ed. 2, n. 154.) This fine and distinct species is nearest to *T. lineare*, and in size and general appearance somewhat intermediate between it and *T. tortile*. However, it is readily distinguished from the former by its rather longer and less appressed leaves, with much shorter cells and thicker interstices, and a narrower and more terete costa; and by its rather longer and narrower ovate or conic-cylindrical capsule, with a very narrow peristome, composed of nearly filiform, erect, parallel, almost always simple and entire, and still more faintly granulose teeth, and a narrower annulus. The perichætial leaves also differ in being rather less convolute, and in having a rather less abrupt, longer and more acute apex. This species occurs in great abundance along highways and by-ways in the White Mountain region of New Hampshire, extending into the mountains far above the limit of trees.

Syrrhopodon? Rauei, *n. sp*—Dioicus; flos masc. gemmiformis, versus apicem caulis lateralis sed non axillaris; caule procumbente subflexuoso simplici et subramoso, foliis e basi erecta subsemivaginanti ovato-lanceolata subpatentibus undique vergentibus leniter flexuosis siccitate paulum crispabilibus lineali-subulatis concavo-canaliculatis, margine plano lenissime incrassatove (rarissime anguste recurvo) inferne eroso ac superne subserrato, dorso versus apicem scabriusculo, costa valida limitibus supra inconspicuis percurrente lamellato-striatula, reti minutissimo opaco quadrato basilari (extremo excepto) vix aucto ad angulos cellulis multis (limitibus obscuris) duplo triplove majoribus ovalibus paulum inflatis demum subfuscis pellucidis instructo; colore atroviridi: pl. fem. ignota.

On shaded rocks in the mountains of Pennsylvania, "along Stony Brook," *Rau*, (Associated with *Jungermania albicans, var. taxifolia* and *J. setacea.*) Stems about an inch, and leaves 1½–2 lines long; the latter usually rather suddenly narrowed ⅕–⅓ way above the base into a subulate-lineal, thickish, deeply canaliculate (scarcely carinate) point, which is slightly scabrous and irregularly serrate above, and is chiefly occupied by the stout costa; the expanded portion is very minutely and obscurely erose-serrate above the middle. The plant is of an uncertain generic character; it may possibly be a *Didymodon*. The only moss known to me with which it would seem possible to comfound it is a form of *Dicranum fulvum*, Hook., which grows in precisely similar situations, is often of the same blackish green color, and otherwise presents a somewhat similar appearance; but that is always more robust, and has the leaves more crowded, usually nearly or quite twice as long, gradually tapering from a lanceolate more concave base, more crisped when dry, and less spreading when moist, margins never thickened nor recurved, and perfectly entire (always ?) towards the base, areolation above nearly similar but towards the base more enlarged and oval, at the basal angles more inflated—the inflated patch more distinctly defined, costa a little stouter and less distinctly or not at all striate-lamellated, " male flower terminal," etc.

§ 76. New Fungi found at New Field, New Jersey, by J. B. Ellis.

(*Continued from Vol. V., No.* 11.)

9. **Agaricus** (Armillaria) **nardosmius,** *n. sp.*—On the ground in oak and pine woods, September, October. Pileus 3′ or more across, mottled brown—flesh firm, white, thick and compact in the disk but suddenly thinning out near the margin which on this account soon withers—cuticle thick, tough, separable—lamellae unequal, rather crowded, subventricose, attached, with a shallow sinus, about ⅓′ broad—stem solid, of fibrous texture, white within—sheathed below by the dark brown velvet-like veil which terminates above in a narrow, spreading, jagged-edged ring, fibrose-squamulose above, about 3′ long and ½′ thick, not bulbous. Spores subglobose, .00025′ in diameter.

The surface of the pileus is smooth to the touch and soft but variegated with patches of appressed hairs, which appear as if dried down upon it after having been wet. The fresh plant has an aromatic smell like spikenard. First observed in 1873, and found each season since in the same locality. The upper surface of the ring has a pale lilac tint.

10. **Agaricus** (Clytocybe) **auratocephalus** *n. sp.*—Pileus obtuse-conic, expanding to convex, with a fleshy umbo, surface smooth but of fibrous texture, and at length more or less rimose-striate. About 1½ inches broad—lamellae broad (¼′) ventricose, fleshy, subsinuate with a decurrent tooth, not crowded, becoming orange-red in drying—stem usually compressed and crooked, attenuate at both ends, hollow, smooth, brittle, as is the whole plant, 3′-4′ long, ¼′ thick. Spores about .0004′ long, short oblong, somewhat irregular in shape.

Gregarious and subcespitose, in swampy ground, July. Whole plant golden yellow, when fresh has a strong peculiar smell, especially when drying. The lamellae become glaucous pulverulent.

11. **Agaricus** (Entoloma) **indigoferus,** *n. sp.*—Pileus 3′-4′ across, convex-plane, rivulose, indigo blue fading out at length more or less, flesh white, very thin towards the margin—lamellae hardly crowded, sinuate emarginate, white, becoming flesh color, at length becoming ventricose and separating from the stem, which is solid, brittle, fibrillose, white, more or less tinged with blue, tomentose at base, 2′-3′ long, ¼′-½′ thick. Spores dull flesh color very irregular, .0004′.

Gregarious or subcespitose. Among moss in the swamp.